



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/805,168

03/19/2004

Massimiliano Lunelli

2110-109-3

7396

996 7590 02/21/2007
GRAYBEAL, JACKSON, HALEY LLP
155 - 108TH AVENUE NE
SUITE 350
BELLEVUE, WA 98004-5901

EXAMINER

CHAUDRY, MUJTABA M

ART UNIT

PAPER NUMBER

2133

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/805,168

Applicant(s)

LUNELLI ET AL.

Examiner

Mujtaba K. Chaudry

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 7-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 1-3, 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on none is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: <u>2/12/2007</u> |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: <u>3/19/2004</u> | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2133

DETAILED ACTION

Claims 1-21 were originally presented for examination. An election was made, in response to a restriction requirement, to claims 1-6 of Group I. Therefore, claims 1-6 are pending in the application and are hereby considered on the merits. Applicants are advised to cancel non-elected claims 7-21 in subsequent communication.

Election/Restrictions

A restriction requirement was made on Thursday, January 18, 2007 with Applicants' Attorney, Paul F. Rusyn. See interview summary attached.

Restrictions to one of the following inventions is required under 35 USC 121:

- I. Claims 1-6, drawn to a method for correcting errors based on syndrome calculation using parity matrixes, classified in class 714, subclass 785.
- II. Claims 7-21, drawn to a method for generating an error correction code from non-binary group of bit values, classified in class 714, subclass 758.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I, a method for correcting errors based on syndrome calculation using parity matrixes and Group II, a method for generating an error correction code from non-binary group of bit values related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as

Art Unit: 2133

claimed does not require the particulars of the subcombination as claimed because the claims of Group II do not require the limitations of correcting errors based on syndrome calculation using parity matrixes. The subcombination has separate utility such as in a single networked environment.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The references listed in the information disclosure statement (IDS) submitted March 19, 2004 are considered. The submission is in compliance with the provisions of 37 CFR 1.97.

Oath/Declaration

The Oath filed December 17, 2004 complies with all the requirements set forth in MPEP 602 and therefore is accepted.

Drawings

No drawings have been submitted in the application. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed limitations must be shown. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to because:

- As indicated above, no drawings have been submitted.

Art Unit: 2133

- Along with drawings, there needs to be corresponding reference in the specification.

See MPEP 608.01(a) [R-5].

Correction is requested.

Claim Objections

Claim 1 is objected to because of the following informalities:

- The body of the claim should be indented from the preamble and limitations therein should be separated by semicolon (;).

Appropriate correction is required.

Claim 2 is objected to because of the following informalities:

- The term "said error code" should be "said error corrector code" to be uniform with claim 1. The Examiner will interpret as such.

Appropriate correction is required.

Claim 3 is objected to because of the following informalities:

- The term "said error code" should be "said error corrector code" to be uniform with claim 1. The Examiner will interpret as such.

Appropriate correction is required.

Claim 5 is objected to because of the following informalities:

Art Unit: 2133

- The term "said error code" should be "said error corrector code" to be uniform with claim 1. The Examiner will interpret as such.

Appropriate correction is required.

Claim 6 is objected to because of the following informalities:

- The term "said error code" should be "said error corrector code" to be uniform with claim 1. The Examiner will interpret as such.
- The term "the" should be omitted in line 2, before the term "systematic".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- For example, in claims 1 and 4, in particular claim 1, line 2, the claim recites, "...for example digital information memory systems..." Applicants are suggested not to use "for example" in the claim as it makes the metes and bounds unclear. See MPEP 2173.05(d) [R-1].
- In claim 4, the terms p and k are not defined.

Art Unit: 2133

- In claim 4, the parity matrix is defined in the negative sense. Meaning that it states what the parity matrix isn't instead of stating what it is. For example, claim 4, recites in part, "...a determinant different from 0...matrix is not linear...mod p with p different from 2..." The Applicants seem to state all the limitations negatively and do not clear define where the claim's metes and bounds are. For the purposes of examination, the claim will not be examined on the merits. See MPEP 2173.05(i).

Appropriate correction and/or clarification is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (USPN 5040179).

As per claim 1, Chen teaches a method for making error corrections on digital information coded as symbol sequences (i.e., col. 1, lines 14-16), for example digital information stored in electronic memory systems (i.e., col. 1, lines 27-29) or transmitted from and to these systems providing the transmission of sequences incorporating a portion of error corrector code (i.e., col. 1, line 23) allowing the sequence which more probably the original transmitted through the calculation of an error syndrome using parity matrix to be restored when received,

Art Unit: 2133

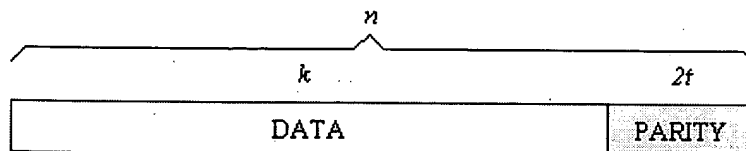
characterized in that the error code incorporated in the original sequence belongs to a non Boolean group (i.e., col. 5, lines 17-27).

As per claim 2, Chen teaches said method according to claim 1, wherein said error code is a linear code (i.e., col. 1, lines 16-17).

As per claim 3, Chen teaches said error code recognizes an error of the $0 \rightarrow 1$ type from and error of the $1 \rightarrow 0$ type (i.e., example described in col. 6, line 66—col. 9, line 68).

As per claim 5, Chen teaches said error code belongs to an abelian group (i.e., col. 6, lines 28-30). The Examiner would like to point out that **abelian group**, also called a **commutative group**, is a group $(G, *)$ such that $a * b = b * a$ for all a and b in G . Therefore, an exclusive OR operation is operation which is by definition a abelian group since $00 \rightarrow 0$, $01 \rightarrow 1$, $10 \rightarrow 1$ and $11 \rightarrow 0$.

As per claim 6, said error code is a code in the systematic form (i.e., example in col. 6, line 66—col. 7, line 20). The Examiner would like to point out that a systematic code by definition is a code wherein parity is appended to data without changing the order of the data. For example, see: http://www.4i2i.com/reed_solomon_codes.htm



Art Unit: 2133

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Additional pertinent prior arts are included herein for Applicant's review:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mujtaba K. Chaudry whose telephone number is 571-272-3817.

The examiner can normally be reached on Mon-Thur 9-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mujtaba Chaudry
Art Unit 2133
February 13, 2007